Application No. 10/522,252 Docket No.: 022290.0123PTUS

Reply to Final Office Action of July 6, 2009 Amendment dated December 7, 2009

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-15. (Canceled)

 (Currently Amended) Orally administered microcapsules for modified release of at least one active principle with low solubility,

wherein the mean diameter of the microcapsules are less than 1000 microns;

wherein each microcapsule has a core comprising at least one active principle and at least one solubilizing agent,

wherein the at least one solubilizing agent increases the solubility of the at least one active principle by more than 50% when the at least one solubilizing agent is placed in an adueous solution at a concentration of 20% w/w at 37°C:

wherein the at least one solubilizing agent confers properties upon the core such that in a dissolving test (TD) a non-coated core releases 80% of the at least one active principle in less than two hours:

wherein the core is coated with a coating film which controls the modified release of the active principles:

wherein the coating film is between at least about 3% and about 7% dry weight/dry weight of the microcapsule mass;

wherein the coating film of each microcapsule comprises at least one filmforming polymer (P1) insoluble in gastrointestinal tract fluids, at least one water-soluble polymer (P2), and at least one plasticizer, (PL).

17. (Previously Presented) The microcapsules of claim 16,

wherein the mass fraction by dry weight of P1 relative to the total mass of the coating is between 40 and 90%;

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wherein the mass fraction by dry weight of P2/P1+P2 is between 15 and 60% relative to the total mass of the coating; and

wherein the mass fraction by dry weight of PL/P1+PL is between 1 and 30% relative to the total mass of the coating.

18. (Cancelled).

- 19. (Previously Presented) The microcapsules of claim 16, wherein the at least one solubilizing agent is selected from the group consisting of hydrophilic polymers, polyvinyl pyrrolidone, polyvinyl alcohol, hydrophilic derivatives of cellulose, hydroxypropylcellulose, carboxymethylcellulose, maltodextrins, polyethylene glycol, surfactants, polyoxyethylene-polyoxypropylene copolymers, polyoxyethylenated hydrogenated castor oil, sodium dodecyl sulfate, esters of sucrose or sorbitan, phospholipids, polyethylene glycol stearate, disodium pamoate, polyoxyethylenated oils, polysorbates, sequestering agents, cyclodextrins, and mixtures thereof
- 20. (Previously Presented) The microcapsules of claim 16, wherein the mass fraction [solubilizing agent] x 100/[solubilizing agent + AP] is greater than or equal to 5%.
- 21. (Previously Presented) The microcapsules of claim 16, wherein P1 is selected from the group consisting of water-insoluble derivatives of cellulose, ethylcellulose, cellulose acetate, acrylic derivatives, poly(vinyl acetates), and mixtures thereof.
- 22. (Previously Presented) The microcapsules of claim 16, wherein P2 is selected from the group consisting of water-soluble derivatives of cellulose, polyacrylamides, poly-Nvinylamides, poly (N-vinyl lactams), polyvinyl alcohols, polyoxyethylenes, polyvinylpyrrolidones, and mixtures thereof.
- 23. (Previously Presented) The microcapsules of claim 16, wherein PL is selected from the group consisting of glycerol, glycerol esters, acetylated glycerides, glyceryl monostearate, glyceryl triacetate, glyceryl tributyrate, phthalates, dibutyl phthalate, diethyl phthalate, dimethyl

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phthalate, dioctyl phthalate, citrates, acetyl tributyl citrate, acetyl triethyl citrate, tributyl citrate, triethyl citrate, sebacates, diethyl sebacate, dibutyl sebacate, adipates, azelates, benzoates, plant

oils, fumarates, diethyl fumarate, malates, diethyl malate, oxalates, diethyl oxalate, succinates,

dibutyl succinate, butyrates, cetyl alcohol esters, malonates, diethyl malonate, castor oil and

mixtures thereof.

24. (Previously Presented) The microcapsules of claim 16, wherein the at least one

active principle is selected from the group consisting of antiulcer agents, antidiabetic agents,

anticoagulants, antithrombics, blood lipid-lowering agents, antiarrhythmics, vasodilators, antiangina agents, antihypertensives, vasoprotective agents, fertility promoters, inducers and

inhibitors of uterine labor, contraceptives, antibiotics, antifungal agents, antiviral agents,

anticancer agents, anti-inflammatories, analgesics, antiepileptics, antiparkinsonian agents,

neuroleptics, hypnotics, anxiolytics, psychostimulants, antimigraine agents, antidepressives,

antitussives, antihistamines, antiallergic agents, and mixtures thereof.

25. (Previously Presented) The microcapsules of claim 24, wherein the at least one

active principle is selected from the group consisting of prazosine, acyclovir, nifedipine,

naproxen, ibuprofen, ketoprofen, fenoprofen, indomethacine, diclofenac, sulpiride, terfenadine,

carbamazepine, fluoxetine, alprazolam, famotidine, ganciclovir, spironolactone, acetylsalicyclic

 $acid, \ quinidine, \ morphine, \ amoxicillin, \ paracetamol, \ metoclopramide, \ verapamil \ and \ mixtures$

thereof.

26. (Previously Presented) The microcapsules of claim 16, wherein the coating film

further comprises at least one lubricating surfactant (TA).

27. (Previously Presented) The microcapsules of claim 26, wherein the TA is in a

proportion of between 2 and 20% of the total mass of the dry coating.

28. (Previously Presented) The microcapsules of claims 26, wherein the TA is selected

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from the group consisting of anionic surfactants, alkali metal salts, alkaline-earth metal salts of

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fatty acids, stearic acid, oleic acid, nonionic surfactants, polyoxyethylenated oils, polyoxyethylenated hydrogenated castor oil, polyoxyethylene-polyoxypropylene copolymers, polyoxyethylenated sorbitan esters, polyoxyethylenated castor oil derivatives, stearates, calcium stearate, magnesium stearate, aluminum stearate, zinc stearate, stearyl fumarates, sodium stearyl fumarate, glyceryl behenate, and mixtures thereof.

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29. (Previously Presented) A medicinal product comprising the microcapsules of claim

30. (Previously Presented) The medicinal product of claim 29, wherein the product is in a form selected from the group consisting of tablet, gelatin capsule, powder, and aqueous suspension.

31. (Previously Presented) A medicinal product which comprises at least one active principle with low solubility, wherein the product is administered orally and released in vivo in a controlled, prolonged and, delayed manner,

wherein the medicinal product comprises microcapsules with a mean diameter of less than 1000 microns:

wherein each microcapsule has a core comprising at least one active principle and at least one solubilizing agent,

wherein the core is coated with a coating film comprising at least one filmforming polymer (P1) insoluble in gastrointestinal tract fluids, at least one water-soluble polymer (P2), and at least one plasticizer (PL),

wherein the coating film is at least about 3% to about 7% dry weight/dry weight of their total mass, and

wherein the at least one solubilizing agent is one which when placed in an aqueous solution at a concentration of 20% w/w at 37°C increases the solubility of the active principle by more than 50%.

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32. (Previously Presented) The microcapsules of claim 26,

wherein the mass fraction by dry weight of P1 relative to the total mass of the coating is between 50 and 80%;

wherein the mass fraction by dry weight of P2/P1+P2 is between 15 and 55% relative to the total mass of the coating;

wherein the mass fraction by dry weight of PL/P1+PL is between 5 and 25% relative to the total mass of the coating; and

wherein the mass fraction by dry weight of TA is between 4 and 15%.